

Rick W. Kennedy
President and CEO
Direct Dial: 716.848.1407
E-mail: rkennedy@hodgsonruss.com



September 30, 2016

VIA HAND DELIVERY

Terri J. Mucha, Esq.
Assistant Regional Attorney
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Dear Ms. Mucha:

Re: Tonawanda Coke Corporation; Order on Consent – File No. 15-61, R9-
20151215-132

Pursuant to the above-referenced Order on Consent dated August 30, 2016 (the “Order”), Tonawanda Coke Corporation (“TCC”) was required to provide the New York State Department of Environmental Conservation (“NYSDEC”) with written documentation confirming the completion of certain items listed on Schedule A of the Order. TCC’s response as to each item is discussed separately below:

ITEM (1) – *By September 16, 2016, submit written confirmation of the completion of the internal cleaning of the sections of the stormwater drainage system that were impacted by the spill that is the subject of this Order.*

TCC RESPONSE:

Due to work quality and availability issues with the third-party contractor originally retained to complete this cleaning work, TCC requested that NYSDEC extend the time to complete Item (1) to September 30, 2016. NYSDEC approved this extension request by email dated September 16, 2016.

The internal cleaning required by Item (1) was conducted by National Vacuum Environmental Services Corporation from September 21, 2016 to September 23, 2016.

ITEM (2) – *By September 30, 2016, submit for Department review and approval, a revised Best Management Practices (“BMP”) Plan to address the prevention of releases of pollutants to the waters of the State, including, but not limited to:*

(a) Proposed practices to prevent a recurrence of tank spills including, but not limited to, the installation of separate pumps, one dedicated to remove condensate from the condensate collection tank and one to remove tar from the primary cooler, to prevent future human error incidents due to the need to manually open/shut a valve to use the current pump for both condensate and tar removal;

b. Installation of an appropriate secondary containment system around the condensate collection tank or moving the condensate collection tank into the adjacent secondary containment system, including pumps; and

c. Employee training regarding spill reporting obligations under applicable federal and state laws and regulations.

TCC RESPONSE:

TCC has enclosed a copy of the text of its revised Best Management Practices Plan (the “BMP Plan”) as **Exhibit A**. No appendices or figures have been included with this submission, as those were not revised pursuant to the Order. TCC can provide a full set of appendices and figures upon request by NYSDEC.

With respect to each sub-item, TCC would note the following:

(a) The revised BMP Plan contains procedures designed to prevent the recurrence of tank spills, including employee training (Section 9.3), inspections and recordkeeping (Section 9.4), risk identification and assessment (Section 9.2), preventative maintenance (Section 9.5), good housekeeping practices (Section 9.6), materials compatibility (Section 9.7), and security measures (Section 9.8). The revised BMP Plan also contains procedures aimed at mitigating the effect of tank spills should they occur, such as methods for responding to and reporting BMP incidents (Section 9.1), and spill prevention and response measures (Section 9.9).

TCC is also working to adopt the proposed practices suggested by NYSDEC, including installing separate pumps dedicated to (1) removing condensate from the condensate collection tank; and, (2) removing tar from the primary cooler. Currently, one pump performs both functions. In August 2016, TCC ordered one pump to achieve this proposed practice, as well as a second pump to act as an on-site spare, as reflected in the purchase order attached as **Exhibit B**. Those pumps were received by TCC during the week of September 26, 2016.

Once the installation is complete, there will be two pumps, one dedicated for each recommended practice. A third pump will remain on-site as a replacement/backup. Work on the installation is expected to be completed in approximately three weeks.

(b) The condensate collection tank was moved into the adjacent secondary containment system, which utilizes existing pumps (in addition to the dedicated pumps discussed above) to address material in that location, rather than creating a new secondary containment system for management. That relocation work was completed on May 23, 2016.

(c) Section 9.3 of the Revised BMP Plan reflects that TCC employees and contract workers who have the potential to handle materials that contain toxic/hazardous pollutants, or those who respond in the event of a spill of these materials, are trained with respect to spill reporting obligations under applicable Federal and State laws and regulations.

ITEM (3) – *The remediated waste associated with the cleanup of Spill Number 15009056 may be either (1) disposed of at an appropriate off-site disposal facility, with copies of disposal receipts provided to the Department within 15 days of receipt, or (2) TCC may recycle the waste into its coke manufacturing operations provided that (i) TCC strictly conforms to the exemption under the Resource Conservation and Recovery Act; and (ii) the ratio of waste to the coal/breeze mixture must provide for appropriate combustion to preclude adverse conditions such as dusty pushes and process upsets; and (iii) TCC will recycle the waste in its operations for purpose of manufacturing marketable coke; and (iv) the current deficiencies with TCC's pushing shed is corrected to the satisfaction of the Department.*

TCC RESPONSE:

The Department's comment in Item 3 is noted, and TCC confirms that any recycling activities for remediated waste associated with Spill Number 1509056¹ will be conducted according to these requirements. The company does not intend to dispose of the material at an off-site disposal facility.

¹ The Spill referenced in Schedule A of the Order was listed as Spill # 15009056, which TCC believes to be a scrivener's error, as the body of the Order correctly references Spill Number 1509056, which is the spill at issue.

Ms. Teresa J. Mucha
September 30, 2016
Page 4



Please contact me if you have any questions or concerns regarding the material
above.

Very truly yours,

A handwritten signature in cursive script that reads "Rick W. Kennedy /ajt".

Rick W. Kennedy

RK/jjt
Enclosures

Exhibit A

BEST MANAGEMENT PRACTICES PLAN

**TONAWANDA COKE CORPORATION
TONAWANDA, NEW YORK**

Revised: September 2016

000160.01464 Litigation 14195259v2

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	4
2.0 FACILITY DESCRIPTION	6
3.0 FACILITY WATER MANAGEMENT	7
4.0 BMP COMMITTEE	8
5.0 RELATED FACILITY PLANS AND PROCEDURES	9
6.0 IDENTIFICATION OF HAZARDOUS/TOXIC POLLUTANTS	9
7.0 TOXIC “HOT SPOT” IDENTIFICATION	10
8.0 REVIEW OF FACILITY COMPONENTS AND SYSTEMS	11
8.1 FACILITY SPILL HISTORY	13
9.0 BEST MANAGEMENT PRACTICES	16
9.1 RESPONDING TO AND REPORTING OF BMP INCIDENTS	16
9.2 RISK IDENTIFICATION AND ASSESSMENT	19
9.3 EMPLOYEE TRAINING	19
9.4 INSPECTIONS AND RECORDS	20
9.5 PREVENTIVE MAINTENANCE	22
9.6 GOOD HOUSEKEEPING	23
9.7 MATERIALS COMPATIBILITY	24
9.8 SECURITY	24
9.9 SPILL PREVENTION & RESPONSE	24
9.10 MANAGEMENT OF WASTE MATERIALS	25
9.11 MANAGEMENT OF RUNOFF	26
9.12 COAL PILE STORMWATER RUNOFF PLAN OF ACTION	27
9.12.1 STORMWATER IMPROVEMENT BMPS	29
9.13 PROCESS WASTEWATER SYSTEM PLAN OF ACTION	31
9.14 MANAGEMENT OF CONCRETE MIXING PAD	32
9.14.1 AVAILABLE STORAGE CAPACITIES	32
9.14.2 MIXING PAD RELEASE PREVENTION	33
9.14.3 MIXING PAD BMPS	33

LIST OF FIGURES
(Following Text)

FIGURE 2.1	SITE LOCATION MAP
FIGURE 2.2	COKE AND BYPRODUCTS PROCESS FLOW DIAGRAM
FIGURE 3.1	WATER FLOW DIAGRAMS
FIGURE 3.2	SITE LAYOUT
FIGURE 3.3	PROCESS WASTEWATER LAYOUT
FIGURE 3.4	DRAINAGE MAP
FIGURE 8.1	BULK STORAGE AND TRANSFER CONTAINMENT PLAN
FIGURE 9.1	SEDIMENT LEVEL INSPECTION LOCATIONS

LIST OF APPENDICES
(Following Figures)

APPENDIX A	<u>INSPECTION FORMS:</u>
A.1	Daily Vehicle Inspection
A.2	Tar Loading Report
A.3	Process Wastewater System Inspection
A.4	Outfall Inspection Report
A.5	Storage and Containment Inspection Report
A.6	Stormwater Sedimentation Inspection Report
A.7	Mixing Pad Inspection Report
APPENDIX B.1	Bulk Hazardous Materials list
B.2	Location Map
B.3	SDS's

LIST OF DRAWINGS
(Following Appendices)

CI-01	Site Plan
CI-02	Erosion Control
CI-03	Erosion Control Details



Tonawanda Coke Corp.
PO Box 5007
Tonawanda, NY 14151-5007
(716) 876-6222

Signature Page

*"I hereby certify that I am familiar with the Facility,
and attest that the Best Management Plan
will be implemented at the Tonawanda Coke Corporation."*

Name	Title	Cell Phone	Signature
Robert Kuberka	Environmental Manager	(716) 946-8348	<u>Robert Kuberka</u>
Bob Kolvek	VP Operations	(716) 512-0061	<u>Bob Kolvek</u>
Pat Cahill	Plant Manager	(716) 550-1534	<u>Pat Cahill</u>
Mike Trembowicz	Vice President	(716) 773-9944	<u>Mike Trembowicz</u>



Tonawanda Coke Corp.
PO Box 5007
Tonawanda, NY 14151-5007
(716) 876-6222

Signature Page

*"I hereby certify that I am familiar with the Facility,
and attest that the Best Management Plan
will be implemented at the Tonawanda Coke Corporation."*

Name	Title	Cell Phone	Signature
Robert Kuberka	Environmental Manager	(716) 946-8348	_____
Bob Kolvek	VP Operations	(716) 512-0061	_____
Pat Cahill	Plant Manager	(716) 550-1534	_____
Mike Trembowicz	Vice President	(716) 773-9944	_____

1.0 INTRODUCTION

This Best Management Practices Plan (BMP Plan or Plan) has been prepared for the Tonawanda Coke Corporation (TCC, Facility, or Site) located at 3875 River Road, in the Town of Tonawanda, New York. The Plan satisfies specific requirements of the Facility's New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) Discharge Permit Number NY-000 2399, effective November 23, 2005 and expiring July 31, 2010. TCC submitted a timely renewal application, and the permit has been administratively extended.

As required under the Special Conditions section of the Facility's SPDES Permit, the permittee shall develop a BMP Plan to prevent or minimize the potential for release of significant amounts of toxic or hazardous pollutants to the waters of the State. This Plan addresses the Special Conditions requirements of the SPDES Permit.

Note that the Facility's October 2014 Spill Prevention, Control and Countermeasure (SPCC) Plan in October was combined with the then-existing Facility BMP Plan. This BMP Plan replaces the version included in the October 2014 SPCC Plan. Also note that portions of the Facility's SPCC Plan are incorporated into this BMP Plan by reference.

This BMP Plan has also been prepared to satisfy two other specific requirements:

- The requirements of TCC's Town of Tonawanda Industrial Sewer Connection Permit No. 331 (Industrial User (IU) Permit), effective September 1, 2012. As required under Part II - Special Conditions/Compliance Schedule of the IU Permit - the Facility "shall develop, within 6 months of the effective date of this permit, an accidental spill prevention plan to eliminate or minimize the accidental or slug discharge of pollutants into the sewer system, which could have an effect on the Town's treatment system, sludge, or cause the Town to violate its SPDES permit."
- The prevention and minimization of future releases of petroleum and petroleum derivatives at the Facility.

2.0 FACILITY DESCRIPTION

The Facility is located at 3875 River Road in the Town of Tonawanda, New York. Figure 2.1 presents the Facility location map.

TCC is a merchant producer of metallurgical foundry coke. Foundry coke is the primary product of metallurgical foundry grade coals. The raw material (coal) is almost exclusively from Kentucky, West Virginia, or Pennsylvania.

Three types of coal are primarily used at TCC. These include:

- High Volatile (30 to 40 percent volatile matter)
- Medium Volatile (20 to 30 percent volatile matter)
- Low Volatile (15 to 20 percent volatile matter)

These three types of coals are proportionally mixed together, treated with recycled coke fines, pulverized, and conveyed to oven bunkers. From the bunkers, the coal mix (approximately 19 tons) is charged to each coke oven as the coke from the previous cycle is removed from that oven. Therefore the term “continuous-batch” process is applicable to this operation. For approximately 30 hours, the coal is subjected to heat approaching 2,000 degrees Fahrenheit. In the absence of oxygen, destructive distillation takes place.

At the termination of the coking cycle, the incandescent coke is pushed from the oven and collected in a rail-mounted “hot car.” The hot car transports the coke to the quench station, where water is used to cool the coke. Next, the coke is delivered to the coke screening station for size segregation and loading in rail cars or trucks for transport to users.

Several byproducts are recoverable from the gases generated in the coke oven during destructive distillation. However, no refinement takes place at this Facility. Light oil (a mixture of benzene, xylene, and toluene) was previously recovered and sold in crude form. TCC abandoned this operation in 2008, and is in the process of permanently closing all of the vessels and other equipment that was used for this purpose. Coal tar is still recovered and sold in crude form. The third and final byproduct recovered is Coke Oven Gas (COG), which is totally consumed by TCC. The COG is primarily used to underfire the coke oven battery. It is also utilized as a fuel to meet the steam requirements of the Facility. Figure 2.2 presents a typical coke and byproducts process flow diagram.

TCC operates a single battery of 60 coke ovens to produce merchant foundry coke. In these operations, priority pollutant materials are generated and treated. The material of primary focus for the BMP program is termed weak ammonia liquor (WAL). The WAL contains aqueous ammonia, cyanide, and phenol in concentrations that constitute an environmental concern if an accidental spill or discharge should occur. The WAL pH is typically in the range of 8.8 - 9.2. The table below presents the typical concentrations of aqueous ammonia, cyanide, and phenol in WL. Additional information about WAL and its handling in the Facility is contained in Section 8.0.

<i>Typical Analysis of Weak Liquor (WL)</i>	
Constituent	Approximate Concentration (ppm)
Ammonia	3500
Phenol	500
Cyanide	10

3.0 FACILITY WATER MANAGEMENT

The Facility discharges wastewater to the Niagara River under its SPDES permit. Four outfalls are permitted for discharge:

- Outfall 001: Permitted to discharge non-contact cooling water, boiler blowdown and stormwater runoff after treatment in two concrete-lined settling/skimming ponds (also known as lagoons).
- Outfall 002: Permitted to discharge coal pile runoff.
- Outfall 003: Permitted to discharge non-contact cooling water (from cooling the steam on the discharge side of the cogen turbine to increase efficiency). The Cogen facility was idled in 2008 and there has been no flow from this Outfall since.
- Outfall 004: Permitted as the combined flow for Outfalls 001, 002, and 003. Outfall 004 discharges to a drainage ditch on the East side of River Road. The water from this Outfall commingles with the road runoff and goes through a tunnel under River Road and into a marshy area West of the road. The outfall from the marsh goes into another

drainage ditch, where it joins with surface water and flows into the Niagara River.

Figure 3.1 presents the Facility Water Flow Diagram. Figure 3.2 presents the Facility Layout with the approximate locations of the outfalls labeled.

The Facility is also permitted to discharge sanitary waste and treated industrial wastewater (process water) to the Town of Tonawanda POTW under IU No. 331, effective September 1, 2012 and expiring August 31, 2015.

The process wastewater system, shown on Figure 3.3, consists of two sources contributing flow through a 6-inch forcemain to three treatment processes (stripping, settling, and pH adjustment) before joining the sanitary wastewater system prior to the guard gate monitoring station. At the monitoring station, total flow is measured through a parshall flume before discharging to the Town of Tonawanda sanitary sewer system under the Town Permit.

Facility stormwater is directed to two areas on the TCC property. Stormwater in operational areas is collected in Facility catch basins and routed to the two concrete-lined settling/skimming ponds where it is ultimately discharged to the River through Outfall 001. Stormwater falling on the coal piles/coke storage area is routed to Outfall 002 for discharge under the SPDES Permit.

Figure 3.4 presents a Facility Drainage Map with arrows indicating the approximate direction of surface runoff. Figure 3.4 also contains information on outfall pipe sizes, lagoon capacities, and cooling water intake details.

4.0 BMP COMMITTEE

The Special Conditions - BMP section of the Facility's SPDES Permit requires that a BMP Committee be established. The BMP Committee consists of the persons responsible for developing and implementing the BMP Plan and assisting the Facility in the Plan's implementation, maintenance, and revision. For TCC, the following individuals comprise the BMP Committee:

- Environmental Manager
- Plant Manager

- VP of Operations
- Vice President

The Environmental Manager oversees the BMP Committee and is responsible for implementation of the Plan. The Environmental Manager is also responsible for the annual review of the Plan and for ensuring that the Plan is modified if changes in Facility operations impact any of the BMPs or the potential for releases of pollutants to waters of the State. The VP of Operations is responsible for supporting the environmental staff and for providing Facility manpower and equipment as necessary to implement the BMP Plan.

See the BMP Signature Page at the beginning of the document for Committee contact information.

5.0 RELATED FACILITY PLANS AND PROCEDURES

The Facility has a Spill Prevention, Control, and Countermeasure (SPCC) Plan in place that addresses the requirements of 40 CFR Part 112, related to the prevention of oil discharges into the navigable waters of the United States. Portions of the SPCC Plan are incorporated into this BMP Plan by reference.

6.0 IDENTIFICATION OF HAZARDOUS/TOXIC POLLUTANTS

The BMP section of the Facility's SPDES Permit requires the identification of all substances present at the Facility that are listed as toxic pollutants under Section 307(a)(1) of the Clean Water Act (CWA) or as hazardous pollutants under CWA Section 311, or that are identified as Chemicals of Concern by the Industrial Chemical Survey.

The following materials from the CWA Section 307 list of toxic pollutants are produced in the coke ovens:

- ***Crude Light Oil:*** The Facility no longer recovers or stores crude light oil as a byproduct of the coking process. The components (benzene, toluene, xylene, and

naphthalene) that make up light oil are also in COG, which is used as an energy source at TCC.

- **Coal Tar:** Coal tar is a byproduct of the coking process. It is sold in crude form.
- **Ammonia:** Aqueous ammonia is contained in the WAL and is removed in a still prior to being discharged under IU No. 331.
- **Cyanide:** Cyanide is contained in the WAL and is removed in a still prior to being discharged under IU No. 331.
- **Phenol:** Phenol is contained in the WAL and is removed in a still prior to being discharged under IU No. 331.

There are also several different types of oil present at the Facility. These include diesel, used, and various types of lubricating oils. A complete listing of these materials and their locations within the Facility is contained in the SPCC Plan.

7.0 TOXIC "HOT SPOT" IDENTIFICATION

Per SPDES Permit NY-000 2399, a "hot spot" is a segment of an industrial facility; including, but not limited to soil, equipment, material storage areas, sewer lines, etc.; which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which end of pipe treatment to meet a water quality or technology requirement may, considering the results of wastestream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is adequately higher than the end of pipe concentration of that same pollutant so as to allow for and economically justify removal and/or isolation of the segment and/or best available treatment of wastewaters emanating from the segment.

TCC actively treats all flows discharging to wastewater and/or stormwater collection systems to meet established permit requirements. Based upon properly functioning Facility wastewater and stormwater treatment processes and the above definition, there are typically no toxic "hot spots" identified at the TCC Facility. However, byproduct treatment issues associated with the Ammonia Still caused increased levels of cyanide in the process wastewater stream. TCC implemented a NYSDEC and USEPA-approved plan to address the issue.

Components of the process wastewater treatment system are inspected monthly and the results are recorded using the attached form in Appendix A.3 of this plan. During the monthly inspection, any indication of unconfined or spilled process sludge or leaking and/or improperly routed process wastewater flows shall be immediately reported. Additional inspections that will be used to identify "hot spots" are described in Section 9.4. In addition, discussions related to a wastewater treatment system audit and subsequent recommendations are provided in Section 9.13

In the event that sampling is required as part of the "hot spot" identification, analyses will be in accordance with the test procedures found at 40 CFR 136. Sampling will be in accordance with the procedures described in the Facility's SPDES permit.

For each measurement or sample taken, the following information shall be recorded:

- a. The exact place, date and time of sampling
- b. The dates the analyses were performed
- c. The person(s) who performed the analyses
- d. The analytical techniques or methods used
- e. The results of all required analyses
- f. Where measurement is made by a mechanical or electronic device, accuracy of the device shall be certified correct every year by the manufacturer

In accordance with the terms of its SPDES permit, TCC performs the additional monitoring that is required whenever a SPDES Action Level is exceeded.

8.0 REVIEW OF FACILITY COMPONENTS AND SYSTEMS

As required by the BMP section of the SPDES Permit, the Facility performed a review of plant components and systems where the toxic/hazardous pollutants identified in Section 6.0 are used, stored, or handled. This section presents the findings of the review.

As first discussed in Section 2.0, WAL is stored in several locations during the wastewater treatment process before being discharged to the Town of Tonawanda sewer system. WAL is initially collected and stored in the BH and surge tanks located outside of the pumping building. There are also two 30,000 gallon WAL storage tanks located just South of the building that contains the Operations Manager office. The WAL is then sent to the Ammonia Still, where the hazardous constituents are removed, before going to the Equalization (EQ) Tanks located on the South side of the property. From the EQ

tanks, the flow is by gravity to the Outfall by the Guardhouse, prior to effluent discharge under IU No. 331. Spill containment exists in each of these areas in the form of concrete or earthen diking. Figure 8.1 shows the location of all containment areas, including areas for transfer of materials by truck and rail car.

Within the spill containment diking, the potential to release material to the environment is extremely low. However, during WAL treatment it is necessary to constantly transfer WAL from the surge tank to the WAL storage tanks and ultimately to the EQ tanks. The transfer is accomplished by overhead pipelines that run between the protective dikes. Should failure of any type occur in the pipelines, the potential exists for WAL to flow to the stormwater sewer system directly or via rainfall run-off routes.

A “worst case” failure scenario was developed as part of the SPCC Plan and is repeated here for completeness.

The worst-case failure would be a pipeline rupture that could discharge at a rate of 70 gallons per minute (gpm). Since the basic parameters are known, an impact scenario can be calculated.

Maximum Spill Rate:	70 gpm
Average Clean Water Sewer Flow Rate:	1840 gpm
Niagara River (Receiving Water Flow Rate):	75,000 cu. ft/sec
Settling/Skimmming Pond Capacity:	200,200 gals.

A total pipeline rupture would initially impact the plant sewer system at the aforementioned rate of 70 gpm. Approximate concentration levels in the sewer would then be:

Ammonia	126.3 ppm
Phenol	18.0 ppm
Cyanide	0.4 ppm

The sewer flow would then proceed to the concrete settling/skimmming ponds (lagoons) where it would be retained approximately 2 hours before the pollutants would begin to enter the receiving water (assuming in the worst case scenario, that the source of the rupture had not yet been secured and stopped). The ponds have the capability to isolate their contents from further inflow.

Assuming impact on only 1/10 of the receiving water flow, the concentration level in the Niagara River would be detected at:

Ammonia	0.073 ppm
Phenol	0.010 ppm
Cyanide	0.0002 ppm

As discussed in Section 6.0, benzene, toluene, and xylene are components of light oil. Again, since TCC no longer recovers or stores light oil, the potential for release of these constituents is extremely low.

Management of coal tar produced in the process is discussed in Section 9.6.

8.1 FACILITY SPILL HISTORY

There have been nine recorded spill incidents involving petroleum compounds since TCC purchased and began operating this facility. The first occurred on December 21, 1979 at the section of the plant known as the RFLO coils. These coils were being utilized for heat transfer at that time. Subsequent to this spill incident, alternative heat transfer means have been employed resulting in the decommissioning of the RFLO coils. This spill did not result in any material entering the Niagara River.

The second incident occurred on February 21, 1980. On this date, a thaw event apparently carried small quantities of petroleum through the containment lagoons to the Niagara River. TCC estimated that no more than 3 gallons of petroleum reached the River. An increased emphasis on housekeeping has prevented subsequent incidents of this nature.

The third incident is a result of legacy wastes. The NYSDEC performed a Facility inspection in November of 2012, and noticed several surface areas that were colored in a nature indicative of petroleum spills. NYSDEC then established Spill No. 1207205 to address this problem. TCC is in the process of complying with a stipulation agreement with NYSDEC.

The fourth incident occurred on March 18, 2014. A spill of approximately 1 gallon of hydraulic oil occurred. Spill No. 1311845 was assigned to the spill. It was agreed to by the company and NYSDEC that this spill would be addressed in conjunction with the stipulation agreement for Spill No. 1207205.

The fifth incident involved a spill during a tar loading event of a transfer vehicle on July 24, 2013. NYSDEC assigned Spill No. 1304471 to this event. TCC addressed the affected area and the Spill No. was closed. TCC has established safeguards, including a Tar Loading Report (see App A-2), to prevent a reoccurrence of this type of incident.

The sixth incident occurred at approximately 9:00 PM on Friday, December 4, 2015, a release of coal tar was noted by TCC operational staff. The coal tar is a very viscous material and as such it did not move/migrate very far at all during the cleanup effort. The release was from the Condensate Collection (CC) tank located immediately west of the tar decanter. The tank is less than 1,000 gallons in size, and is situated immediately to the west, and outside of the curbed area in which the gas coolers and the tar decanter are located. The CC tank is used in normal operations to collect condensate from the Facility's gas streams and hard-pipe it directly to the tar decanter. As part of normal operations, as coal tar accumulates in the primary cooler, the tar is flushed approximately once per shift to the tar decanter. On the night of December 4, 2015, a valve on the CC tank that isolates the CC tank from the tar transfer process was inadvertently left open due to operator error. Head pressure in the primary cooler forced the tar to flow through and out of the CC Tank, causing the release. A normally closed CC tank valve would have isolated and prevented the coal tar from flowing to the CC tank, as designed.¹

The release was first noted by TCC's General Foreman on duty that evening. Spill cleanup began immediately thereafter, as breeze from TCC's inventory was initially spread in front of the leading edge of the released tar. The tar release from the CC tank was stopped around 9:30 PM. TCC's Vice President of Environmental, Mr. Ed Dinsmore, was notified by telephone very shortly thereafter. Upon discussion with Mr. Dinsmore, TCC concluded that the release did not constitute an immediate threat to human health or the environment. This decision was made based upon the following facts: (i) that the release was fully contained in the immediate vicinity of the release source; (ii) that the release was noted to be limited to paved or otherwise impervious surface areas; (iii) that there was no release of tar to surface water; and, (iv) there were no emission issues.

TCC personnel called the New York State Spill Hotline (Hotline) on Saturday, December 5, 2015 at 10:15 AM after further discussion regarding the release, and having undertaken a visual inspection of potentially affected areas in daylight. The coal tar spill was reported to the Hotline as being approximately 5,000 pounds, and assigned Spill Number 1509056. Mr. Sal Calandra from the New York State Department of Environmental Conservation (NYSDEC) - Region 9 office visited the Facility on Saturday December 5, 2015 at approximately 11:30 AM to view the release area. Mr. Calandra was

¹ Per Schedule A of the Consent Order between TCC and NYSDEC dated August 29, 2016 [CONFIRM DATE], after the spill incident, TCC moved the condensate collection tank into a nearby area with a secondary containment system. That secondary containment system utilizes movable pumps capable of removing overflow or runoff condensate and/or tar from the condensate collection tank, as well as runoff or discharges from other industrial processes.

escorted by TCC staff, including Mr. Dinsmore and Mr. Bruce Schlager. During the visit, Mr. Calandra asked several questions, took notes, and subsequently left without further communication. Coal tar cleanup was completed around noon on Saturday December 5, 2015.

In order to determine if additional reporting was required due to the coal tar release, TCC sought consultation with Hodgson Russ. TCC also independently performed a literature search to determine the percentage by weight of other constituents present in coal tar from coking operations. Based on a review of two historical coke industry sources, TCC determined that the naphthalene content by weight in coal tar is estimated at approximately 10 percent; therefore, the amount of naphthalene believed to be released with the coal tar was approximately 500 pounds. Since this amount exceeds the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantity (RQ) for naphthalene (100 pounds), TCC was advised that it should report the release, with notification to the National Response Center having been provided at 12:30 PM on Tuesday, December 8, 2015. As part of its literature review, TCC determined that no other coal tar constituents exceeded the CERCLA RQs.

The seventh incident occurred on April 15, 2016 at approximately 9:30 AM, the Genie manlift had a hydraulic line rupture leaking out approximately 10 to 11 gallons of hydraulic oil. Breeze was immediately put down to absorb the spill and was taken to the tar pad for reuse back in operation. Approximately 2.5 yards of breeze was used to clean up the spill. On 5/11/16 the material used to remediate Spill # 1600522 was introduced to our oven mix process.

The eighth incident occurred on August 15, 2016, at approximately 11:55 AM, a spill of approximately 11 gallons of used oil was observed around a 55 gallon drum north of the pump house. Approximately 0.75 yards of breeze was used to clean up the spill, and the material was placed in a waste container/tote for offsite management. Spill # 1604579 was assigned.

The ninth incident occurred on September 6, 2016, at approximately 1:40 PM, the 320 excavator had a hydraulic line leak out approximately 0.16 gallons of hydraulic fluid on Site 108. The fluid was cleaned up and placed in a waste tote. Spill # 1605689 was assigned.

There have been two spills of chemical compounds reported. The first occurred on September 9, 2014, when a valve in the Byproducts area ruptured, resulting in a loss of about 50 gallons (less than the Reportable Quantity) of WAL. This liquor was absorbed in the breeze (coke fines) that covers the ground in this area. Additional breeze was placed on top of the spill before all of the material (~10 cy) was scooped up by a front end loader and hauled to the mixing pad, where it was placed in a segregated area. The

final disposition of this material is still a topic of discussion between TCC and NYSDEC. The incident was reported to NYSDEC in a timely fashion and there were no injuries and no impact on the environment.

The second occurred on or about September 24, 2014, when an open valve on the bottom of a sodium hydroxide tank that was in the process of being closed resulted in the release of approximately 5900 gallons of a 20% NaOH solution. Some of this solution reached the stormwater management system and raised the pH in the oil and grease skimming ponds. Because of the potential impact on Outfalls 001 and 004, these ponds were isolated and the water neutralized before being discharged. The incident was reported to the National Response Center (NRC) and NYSDEC in a timely fashion and there were no injuries and no noticeable impact on the environment. The NRC issued Incident Report Number 1096363 and NYSDEC issued Spill Report # 1406697 in response. Order on Consent R9-20141203-96 was executed amongst the company and NYSDEC, and required certain injunctive relief to be undertaken in response to the spill, including updates to this BMP Plan.

9.0 BEST MANAGEMENT PRACTICES

Although the potential for a significant release of toxic or hazardous pollutants to State waters is extremely low, TCC has established a number of BMPs that are currently in place and discussed in this section. These BMP's also apply to the release of petroleum and derivative products to the land or navigable water of the State. To the extent applicable, these BMPs follow the order listed in the SPDES Permit Special Conditions-BMP section.

9.1 RESPONDING TO AND REPORTING OF BMP INCIDENTS

Releases of petroleum and derivative products at the Facility shall be evaluated with respect to the NYSDEC's oil spill reporting policy:

All petroleum spills that occur within NY State must be reported to the NYS Spill hotline (1-800-457-7362) within 2 hours of discovery, except spills that meet all of the following criteria:

1. The quantity is known to be less than 5 gallons.
2. The spill is contained, and under the control of the spiller.

3. The spill has not, and will not reach the State's water or any land.
4. The spill is cleaned up within 2 hours of discovery.

A spill is considered to have not impacted land if it occurs on a paved or impermeable surface, such as asphalt or concrete. A spill in a dirt or gravel parking lot is considered to have impacted land and is reportable.

TCC maintains the following "In-Plant Spill Action Plan" which outlines all measures taken in the case of a spill, including all required reporting.

During Regular Business Hours:

1. The person discovering a spill shall report the spill to a supervisor immediately. Two-way radio communication shall be used to notify all other supervisors that an emergency exists.
2. The first responder(s) shall attempt to secure the source(s) of discharges, provided that doing so will not put anyone in harm's way.
3. Appropriate action shall be taken to prevent discharges from entering a sewer system.
4. The Environmental Manager or designee shall inspect the incident area to coordinate clean-up operations.
5. Excessive accumulations that build up on the surface of the ponds shall be skimmed by one of the following contractors:

GEI: 716-366-3141

Tonawanda Tank Transport Services: 716-874-0400

National Vacuum Corp.: 716-773-1167
6. The Environmental Manager is responsible for informing the appropriate governmental agencies of the incident.
7. In the event of a release that poses a sudden threat to public health or the environment, the NRC is to be called first.

National Response Center: 800-424-8802

U.S. Coast Guard: 716-846-4168
Environmental Protection Agency: 732-548-8730
NYSDEC: 716-851-7220 or 800-457-7362 (Albany)

Weekends and Nights

1. The person discovering a spill shall immediately inform the General Foreman.
2. The General Foreman shall initiate actions to secure the sources and contain the discharged material.
3. The General Foreman shall call the following persons in sequence until one has been reached:

Environmental Manager: Rob Kuberka (716) 946-8348

VP Operations: Bob Kolvek (716) 512-0061

Plant Manager: Pat Cahill (716) 550-1534

Vice President: Mike Trembowicz (716) 713-9944

4. The above person contacted shall direct clean-up operations and shall inform the appropriate governmental agencies of the incident.

Sanitary Sewer-Accidental or Slug Discharge

TCC has reviewed chemical, as well as petroleum and derivative, storage in terms of type, volume, spill potential, and proximity to sanitary sewers. This review has shown a very low risk to the sanitary sewer from either of these storage schemes.

There are currently only two chemical storage tanks in service, and both are diked with no access to the sanitary sewer. Mobile sources (i.e., truck tankers) would need to have a release in very close proximity to the location of a sanitary sewer manhole for chemicals to enter the sewer system. Spills in the process area would be conveyed to and held by the concrete settling/skimming ponds (lagoons).

Storage of petroleum and derivative products include both stationary and mobile sources. Facility personnel are aware of potential concerns associated with releases of these materials to the sanitary sewer system, and have been instructed to avoid direct placement of potential sources in areas with direct discharge capability.

Cleaning or biocide materials are stored in containers of 5 gallons or less. These containers represent the largest risk of release to the sanitary sewer.

Normal sanitary sewer flow is continuous and not of a batch discharge type. Nonetheless, in the event of an abnormal situation, or discharge in violation of 40 CFR 403.5, TCC would notify the POTW of the upset. Such notification would be done by phone to Mr. Paul Morrow at (716) 693-4900. A written review of the incident would be prepared and sent by regular mail to the contact at the POTW.

9.2 RISK IDENTIFICATION AND ASSESSMENT

TCC has identified all of the toxic/hazardous pollutants (as defined in the BMP section of the Facility's SPDES Permit) in use at the Facility. The use and handling of these materials is described in other sections of this BMP Plan.

A bulk hazardous materials list with associated Reportable Quantities has been developed and is included in Appendix B. A location map for the materials is also included in Appendix B, along with the associated SDSs. Materials that are stored in small quantities in the laboratories and machine shops and which have little-to-no potential to reach receiving waters in the event of a spill are not included. Note, however, that TCC maintains a complete log of the SDSs for chemicals used on-Site in the Safety office.

9.3 EMPLOYEE TRAINING

Initial Spill Prevention and Notification Training is provided for all Facility employees and contract workers who have the potential to handle materials that contain toxic/hazardous pollutants (i.e., WAL, oils) or to respond in the event of a spill of these materials. The training is provided upon start of employment, and an annual Hazardous Waste Operations and Emergency Response (HAZWOPER) refresher course and includes training regarding spill reporting obligations under applicable Federal and state laws and regulations.

In addition, annual refresher training is provided to any employees who work in proximity to the materials stored outside in the process area and who would have the possibility of responding in the event of a spill.

Facility operators receive initial training specific to his or her job requirements, including the need to perform daily vehicle inspections (see App. A-1) of Facility vehicles. These daily inspections prior to use, will identify potential sources of release, and will allow a rapid response to any release that occurred since the last time the vehicle was used.

Facility operators whose job responsibilities include use, operation, inspection, or oversight of storage tanks receive proper training on the operation of such tanks, including proper valve positioning and requirements relative to in-place secondary containment, and inspection requirements under applicable bulk storage regulations and this BMP Plan.

9.4 INSPECTIONS AND RECORDS

The Facility performs the following regular inspections using the forms found in Appendix A:

1. The Daily Vehicle Inspection Form (TCC-036-79, App. A-1), is utilized by all operators prior to, and after, the operation of any Facility vehicle to identify potential sources of release.
2. The Tar Loading Report (App. A-2) is completed by byproduct operators for every load of tar transferred from tar storage. This loading report includes the performance of specific actions to prevent the recurrence of the spill identified as No. 1304471.
3. The Process Wastewater Inspection Form is filled out by the Environmental Manager, or designee, on a monthly basis (see App. A.3). See Section 7.0 for further discussion.
4. Outfalls are inspected at least on a weekly basis using the Outfall Inspection Form (see App. A.4) and maintained by Environmental personnel, per the recordkeeping protocol.

5. A visual inspection of storage and containment areas (e.g., areas storing hazardous materials, petroleum and/or derivatives, etc.), including pipelines, tanks, and secondary containment systems, is performed and recorded (see App. A-5) by the Environmental Manager, or designee, using the Storage and Containment Inspection Form (see App. A.5). These records are maintained by the Environmental Department. Any deterioration of the curbing or containment walls will be promptly repaired. Any leaking tanks or piping within containment areas will also be promptly repaired.

In addition, Facility operators are to notify their supervisor or Environmental department staff upon the identification of a maintenance and/or repair issue regarding any issue associated with storage and containment areas.

6. The stormwater collection system is to be visually inspected on a monthly basis by a representative of the Environmental department to ensure compliance with the original design bottom elevation of the stormwater management control system components, as identified in the "Engineering Report for Outfall 002 Stormwater Management Improvements," dated October 2010, as well as the "Supplement No. 1 to Outfall 002 Engineering Report," dated July 10, 2011.

The visual inspection specifically include the Facility's catch basins, underdrains, and milled asphalt roads surrounding the perimeter of the coal pile/coke storage areas, as well as the components of the stormwater management control system - *i.e.* sedimentation pools, the north drainage swale, north ditch, south ditch, and stormwater pond. As part of the visual inspections, Environmental personnel will review the level of accumulated breeze, coal, coke and related materials surrounding the catch basins, underdrains, and milled roads, as well as accumulated sediment and vegetation within the stormwater management control system; in each such case, excess material is to be removed within 7 days of detection. The results of the visual inspections are to be recorded on the Stormwater Sedimentation Inspection Form (see App. A-6). All deficiencies are to be reported immediately, and appropriate repairs made in a timely fashion.

The inspection frequency will be twice per month from April 1 through June 30, *i.e.*, there will be two inspections in April, May, and June each year.

The stormwater collection system is to be inspected within 3 days of a rain event that is greater than 0.5 inches, based on data collected from a local weather station.

The results from all inspections are to be included in the monthly Discharge Monitoring Report.

7. The Mix Pad is to be inspected on a monthly basis by the Operations Manager, or designee. The results are to be recorded on the Mixing Pad Inspection Form (see App. A-7). All deficiencies are to be reported immediately, and appropriate repairs made in a timely fashion.

In addition to the weekly and monthly inspections, visual inspection of pipelines, flanges, joints, elbows, packings, valves, supports, and pumps are performed routinely by departmental supervisors and the operating personnel. Staged rail cars and equipment using petroleum or derivative products (e.g., vehicles, loaders, hydraulic equipment) will be regularly inspected for leaks prior to, and subsequent to, use. All potential leaks and/or abnormalities with regard to areas or equipment storage, and/or the handling of hazardous materials and petroleum or derivatives are to be reported to the Department Supervisor for repair and/or clean-up. Inspection records are a part of the byproduct department daily report and/or department logbook.

Additionally, operating personnel and supervisors are instructed to be alert for spills or signs of spills while in the course of their normal activities. They are to notify their supervisor for notification to the appropriate personnel for scheduling corrective action. Appropriate Facility personnel will be utilized to address any necessary repairs of equipment, containment or vehicles.

Applicable records are kept at least 5 years and are part of the BMP plan.

9.5 PREVENTIVE MAINTENANCE

Material storage tanks and pipelines are inspected daily by operating personnel. In addition, the supervisor is responsible to perform his own daily inspection of the tanks and pipelines. Any abnormalities identified by supervisors or operating personnel shall be repaired as soon as possible. Key pumps and/or valves are rotated with spares or exercised to ensure proper continuous operation.

TCC has a Preventive Maintenance (PM) program to periodically evaluate, and subsequently maintain, Facility vehicles and operational equipment.

Certain areas of the Facility that are utilized for fueling and maintenance of equipment and vehicles are part of a remedial effort that is being carried out by TCC under a stipulation agreement with NYSDEC as a response to Spill No. 1207205. Once the remedial effort is completed, additional changes to these areas are expected. At such time, revisions to this BMP Plan will be implemented for these areas. In the interim, fueling and maintenance of Facility equipment and vehicles will be performed in designated areas with high Facility traffic that are regularly inspected for the presence of any leaks or spills, and will be closely monitored in conjunction with the terms of this BMP Plan.

9.6 GOOD HOUSEKEEPING

Good housekeeping is essential to TCC operations and is stressed throughout the Facility. Personnel in each operational area are responsible for maintaining proper respective housekeeping and coordinating with necessary Facility personnel to address any issues or abnormalities. In order to maintain the outside yard area, the paved areas are mechanically swept on a regular basis; while the storage areas are watered down as necessary to reduce dust on unpaved travel lanes.

Any leaks or spills of petroleum or derivative product from any source will be reported to the proper Facility personnel for addressing as soon as possible. Secondary containment areas will be inspected in conformance with the requirements of Section 9.4, and shall be addressed to properly remove and dispose of material and/or product that may accumulate in such areas.

Sumps are pumped out either continuously or before becoming surcharged. In the event of a storm or snow melt event, sumps will be pumped out expediently, and the containment area cleaned to remove any oil or debris from within the diked or curbed area.

The tar decanter hopper provides containment at its source for coal tar sludge generated from the process. Any deterioration of the coal tar sludge containment system will be promptly repaired. Any coal tar spills onto areas surrounding the tar decanter hopper will be promptly cleaned up.

Additional housekeeping activities associated with the proposed coal pile stormwater runoff plan of action are discussed in Section 9.12.

9.7 MATERIALS COMPATIBILITY

The potential for reactive materials to come into contact with each other is minimized at the Facility by storing the materials in separate areas. The Facility is also cognizant of the need to utilize proper containers for oil, raw materials, and other materials in use at the Site. The materials that are considered reactive include ammonium hydroxide, sodium hydroxide, and sulfuric acid, and are listed on the Bulk Hazardous Materials List found in Appendix B.

9.8 SECURITY

The plant employs a sufficient number of security personnel to ensure roving security protection 24 hours a day, 7 days a week. The Facility is fenced and plant gates are locked and/or staffed. Since the plant operates continuously, a General Foreman is on duty at all times.

Storage tank valves that would permit the outward flow of the tank are securely closed and locked when not in service or in standby service and operated by authorized persons only. Valves are to be visually inspected upon use to ensure there are no concerns associated with potential release of the stored material.

All pump controls are located at operating sites accessible only by authorized personnel within visual contact of the loading area.

Loading/unloading connections of oil, chemical, petroleum, and wastewater pipelines are securely blanked when not in service.

Facility lighting in all areas where oil and chemicals are present, including loading/unloading areas, process tanks, storage tanks, and ponds, is adequate for detection of spills and to assist in the prevention of acts of vandalism during night hours.

9.9 SPILL PREVENTION & RESPONSE

As mentioned in Section 5.0, the Facility has prepared a comprehensive SPCC Plan for the prevention of oil discharges to the waters of the State. All employees are trained to notify the Environmental Manager in the event of a spill in accordance with the requirements of Section 9.1.

All spills, regardless of size or operations being conducted, will be addressed immediately. Leaking equipment will be shut down immediately upon identification, and subsequently repaired as soon as possible. Appropriate Facility personnel will be contacted to perform the repairs and address any associated releases.

Operating personnel are trained and required to be proficient in the operation and maintenance of the equipment. This also includes proper methods of handling an emergency situation applicable to pollution control laws, rules, and regulations in conformance with this BMP Plan.

The responsibility for spill prevention and control is delegated to the Environmental Manager and the BMP committee.

In the event of a spill that generates material from on-Site cleanup efforts (e.g., sorbent material, impacted soil, etc.), the Environmental Manager will confer with outside waste management consultants regarding the nature of the waste in order to determine the proper reuse, recycling and/or disposal method. See Section 9.10.

Spill prevention briefings are conducted with operating personnel to assure adequate understanding of the BMP, SPCC Plans, and related regulations.

Additional details regarding spill prevention measures for petroleum and derivative products, and TCC's spill countermeasure plan are presented in the Facility's SPCC Plan.

9.10 MANAGEMENT OF WASTE MATERIALS

The procedures for handling waste materials in the event of a spill or release of chemicals, hazardous substances, or oil during routine operations are as follows:

1. Small releases of petroleum products (typically lubricating/cutting oils) are typically managed by local personnel.
 - a. Dike ahead of spill with speedi dry or other suitable absorbent material to prevent migration into sumps, ditches, and drains.

- b. Apply appropriate amount of breeze², speedi dry or other suitable absorbent material to the spilled material to absorb all liquid.
 - c. Sweep and scoop all spill cleanup residues into approved containers for subsequent characterization and subsequent reuse, recycling and/or disposal.
 - d. Notify the Environmental Manager as soon as possible.
- 2. Larger releases of petroleum products (typically lubricating/cutting oils) is beyond the scope of local personnel.
 - a. Dike ahead of spill with suitable absorbent material to prevent migration into sumps, ditches, and drains.
 - b. Immediately contact the Environmental Manager to request additional help and resources.
- 3. Releases of chemicals and hazardous substances.
 - a. Immediately contact the Environmental Manager to request additional help and resources.
 - b. Handle all releases of chemicals and hazardous substances in accordance with recommendations found on manufacturer's safety data sheet.
 - c. Appropriate training and personal protective equipment may be required to deal with chemical releases.
 - d. All cleanup material must be accumulated in appropriate containers for characterization and subsequent reuse, recycling and/or disposal.

9.11 MANAGEMENT OF RUNOFF

The dikes around process storage tank areas are constructed to contain at least the volume of the largest tank with freeboard for precipitation. Any material collected

² Beneficial Use Determination (BUD) #1106-9-15 was granted by NYSDEC on July 2, 2014 allowing the Facility to use breeze as a speedi-dry alternative.

within the dikes is pumped back into the operating system for treatment with Facility wastewater.

Water collected in the diked area around the EQ tanks is pumped into the East Tank (Tk#1) for settling purposes. From there, it flows by gravity to the West Tank (Tk#2). It then either overflows into the effluent line or is sent for filtering. After that it is sent for pH adjustment and monitoring before being discharged to the Town of Tonawanda under the Town Permit.

Stormwater in the process area that falls in undiked areas is routed to the two concrete lined settling/skimming ponds (lagoons) via the plant sewer system, prior to treatment (oil separation) and discharge through Outfall 001. The lagoon system has been designed to remove coal fines, along with incidental amounts of oil and other materials that may enter the catch basins in the process areas. The lagoon treatment system has been very effective in removing these materials.

Small amounts of coal tar sludge are transferred from the tar decanter hopper to the concrete containment pad located in the southeastern portion of the coal pile storage area. The containment pad (also known as the Mixing Pad) has a concrete floor and poured concrete walls. The coal tar from the tar decanter hopper is manually mixed with coal on the containment pad, and the mixture is then charged into the coal ovens. Precipitation that falls on the containment pad area is contained on the pad, where it either evaporates or is returned to the process area for treatment with Facility wastewater. Specific BMPs for the Mixing Pad are presented in Section 9.14.

9.12 COAL PILE STORMWATER RUNOFF PLAN OF ACTION

This section presents an overview of the Plan of Action (POA) for treatment of the coal pile runoff to ensure consistent compliance with SPDES limits at Outfall 002. The detailed design of the stormwater management upgrades is contained in the Engineering Report for Outfall 002 Stormwater Management Improvements, October 2010. The POA was implemented over the period of December 2010 to July 2011.

Please refer to Drawing CI-01 throughout the following POA discussion. Note that since the intent of this section is to provide an overview of the POA, drawing details that are included in the Engineering Report for Outfall 002 have been omitted from Drawing CI-01.

As part of the POA, a milled asphalt access road has been constructed around the perimeter of the coal pile/coke storage areas. The perimeter road provides a stabilized base for heavy equipment and vehicle traffic that operates in the area. It also serves as a type of containment system for the coal pile runoff, to separate coal pile activity from the ditches that route runoff to the stormwater detention pond. The perimeter access road also reduces the transportation of coal dust to other areas of the Site from vehicle tires. Design of the milled asphalt road incorporates an under-drain system to keep drainage off of the road and to protect the stone sub-base of the gravel road from pumping fines. The underdrain is tied into the storm drainage system. The coal pile runoff collection system consists of a series of catch basins and outlets located along the inside perimeter of the gravel road. The catch basins are slightly elevated above finish grade to reduce direct discharge of fine particles.

The ditches and piping that route coal pile stormwater runoff to the stormwater detention pond have been improved by deepening them to improve flow characteristics and to provide additional settling of suspended solids. The two main stormwater ditches, one on the north side and one on the south side of the coal pile storage area, both flow through sedimentation pools in order to meet the water quality volume requirements for sediment. The sedimentation pools are designed to work with the ditching and piping to reduce the velocity of the entering water to facilitate settling. The ditches and pipes were designed with a limited depth and are accessible by the gravel road in order to facilitate easy access to equipment for routine sediment cleanout.

The three sedimentation pools are designed to slow the velocity of the entering water in order to increase the deposit of suspended coal fines into these shallow pools. The pools are approximately 3 feet in depth in order to accommodate easy removal of sediment and coal fines using existing coal handling equipment. Sedimentation Pools No. 1 and No. 2 were designed to be inundated with water during storm events to slow the velocity of the water coming from the ditches and allow coal fines to settle out of suspension. From Sedimentation Pools No. 1 and No. 2, coal pile runoff flows to the Stormwater Pond, and from there it discharges through Outfall 002. The Stormwater Ponds were sized to contain the required 10 percent pretreatment requirement.

Sedimentation Pool No. 3 was constructed to manage and provide treatment for the stormwater flows discharged from the coal conveyor sump pit, the coal conveyor sump, the car dump pit area, and the concrete sump. Sedimentation Pool No. 3 was designed to provide water quality treatment during dry weather flow discharges from the sump areas, as well as peak flow attenuation during a wet weather 10-year 24-hour storm

event. The design basis for Sedimentation Pool No. 3 was submitted to USEPA and to NYSDEC in the "Supplement No. 1 to Outfall 002 Engineering Report," July 10, 2011.

Surface runoff from the contributing watershed and discharges from the sump areas are routed into Sedimentation Pool No. 3. Flows from Sedimentation Pool No. 3 discharge to Sedimentation Pool No. 2, and then are routed to the Stormwater Pond. Sedimentation Pool No. 3 further enhances the Site stormwater management facilities by providing additional stormwater detention and peak flow reduction to both Sedimentation Pool No. 2 and to the Stormwater Pond.

The existing Stormwater Pond has been significantly expanded in order to provide for additional settling time for suspended solids. The pond was sized to attenuate the peak flow of a 10-year, 24-hour rainfall event and to provide the water quality management required in the New York State Stormwater Manual. The drainage controls have been designed in accordance with the NYSDEC Stormwater Management Design Manual. The pond was designed with sufficient available storage to handle both the water quality volume and peak flows from a high frequency storm event.

9.12.1 STORMWATER IMPROVEMENT BMPS

The BMPs associated with the management and treatment of coal pile runoff include:

- The need to clean the various components of the stormwater treatment system will be triggered by monthly measurements of sediment levels per the Stormwater Sedimentation Inspection Form (see App. A.6). Sediment level gauges (steel beams) have been installed in the detention basin and in Sedimentation Pools #1 and #2. Sediment levels will be measured at these gauges and at other predetermined locations (e.g., the top elevation/surface of various gabion baskets) as depicted on Figure 9.1, Sedimentation Level Measurement Locations. During the spring months (April, May, and June) when vegetative growth is most prevalent, the inspections per Appendix A-6 will be performed on a bi-monthly basis, and within 3 days of a rain event equal to, or greater than 0.5 inches, as measured at a local weather station.
- Accumulated sediment will be removed from the ponds, pools, ditches, and swales when the measured depth to sediment reaches the "Cleanout Depth" as indicated. Accumulated sediment will be removed from upstream of the gabion basket inspection points in the north and south ditches at least once per year, or more frequently as indicated by the sediment measurements. The volume of sediment removed will be recorded on the Inspection Form, and is to be removed within 7 days of identification from the visual inspection.

- Gabion baskets have been installed at several locations in the South Ditch to act as stone check dams and to facilitate containment and subsequent cleaning of coal fines from production activities. The areas adjacent to and around the gabions shall be cleaned when indicated by the Appendix A-6 inspections. Ditch sediment shall be removed at least twenty (20) feet on both the upstream and downstream sides of the gabions and volume recorded. Upon completion of sediment removal, the baskets shall be flushed with high-pressure water until the flow from the gabion is relatively clear. Gabion baskets shall be cleaned in the spring and fall by flushing with clean water and when required by the Appendix A-6 inspections.
- Gabion baskets located within Sedimentation Pool #3 will be inspected per Appendix A-6 and cleaned out within 30 days of a monthly inspection that indicates debris and/or sediment accumulating within the basket. Cleanout of the gabion baskets located within Sedimentation Pool #3 will consist of flushing the baskets with high-pressure water until the flow from the gabion is relatively clear.
- Accumulated coal fines and sediment removed from gabion baskets by the flushing process described above will generally be allowed to settle within the upstream portion of the ditch, pool or swale in which the gabion has been installed. The amount of coal fines and sediment flushed from the gabions is expected be minor. In the event that the gabion flushing is done prior to a ditch, pool or swale cleanout (in accordance with the requirements of Appendix A-6), the flushed, settled sediments will be cleaned from the ditch, pool or swale and mixed into the existing coal piles.
- The milled asphalt road will be maintained and sprayed with water as needed to control dust and to limit the transportation of fines to other areas of the facility.
- All vehicles will be required to stay on the improved road surfaces for any activities other than loading or unloading on the coal/coke storage areas.
- The catch basins and under drains for the road will be maintained on an as needed basis, and shall be cleaned thoroughly, on an annual basis by flushing through the clean-outs and the removing sediment in the catch basins.
- Any coal fines removed from the sedimentation pools, stormwater detention pond, ditches, swales, and other stormwater conveyance pipelines will be mixed into the existing coal piles.
- Vegetation in the swales and ditches will be visually inspected in accordance with the requirements of Appendix A-6, and controlled to prevent excessive ponding in

areas not designed for it. Vegetation removal is to occur within 7 days of identification from a visual inspection.

9.13 PROCESS WASTEWATER SYSTEM PLAN OF ACTION

This section presents the Plan of Action developed as the result of a wastewater system audit performed at the Facility in early 2010.

Process Wastewater System Findings:

All containment sumps on the North end of the process area are pumped to the Tar Decanter. Sumps located in containment areas around the Ammonia Still and Phenol Pump House are pumped directly to the WAL tanks, where they are mixed with the process wastewater and routed for treatment.

Transfer of process wastewater from the surge tank to the WAL tanks is confined to a single aboveground pipe. Likewise, flow from the Ammonia Still Wet Well to the Equalization Tanks is also through a single aboveground pipeline.

Manholes 26 and 27, shown on Figure 3.3, originally discharged to the Ammonia Still Wet Well. Prior to the installation of the Equalization Tanks, the Ammonia Still Wet Well was the end of the treatment process, and the flow from the Wet Well was mixed with the sanitary flow at Manhole 10A. Since the addition of the Equalization Tank treatment process, Manholes 26 and 27 have been completely disconnected and segregated from the Ammonia Still Wet Well. TCC personnel indicate that Manholes 26 and 27 remain connected to each other through a single pipe, but are not connected to any other manholes or underground piping.

Process Wastewater System Recommendations:

Manhole 26 is no longer used in any wastewater conveying process; however, it does surcharge with ground water and surface runoff, and is periodically pumped out to the process wastewater treatment system by TCC personnel. This method of handling groundwater collecting in Manhole 26 will continue.

Manhole 27 is located within a spill containment area, where it is utilized as a containment sump. Manhole 27 can be pumped to the Facility's wastewater treatment system if necessary, but levels in the sump are typically low.

9.14 MANAGEMENT OF CONCRETE MIXING PAD

As described in Section 9.11, small amounts of coal tar sludge are transferred from the tar decanter hopper to the concrete containment (mix) pad located in the southeastern portion of the coal pile storage area. The coal tar sludge from the tar decanter hopper is manually mixed with coal on the containment pad, and the mixture is then charged into the coal ovens.

9.14.1 AVAILABLE STORAGE CAPACITIES

The mix pad walls are approximately 100 feet long by 60 feet wide by 4 feet high and made of concrete. Coal is typically staged on a 2 on 1 slope to a maximum height of 10 feet, which equates to approximately 1,400 cubic yards of storage space for the coal/tar mixture (accounting for 1 foot of freeboard at the sidewalls).

However, to allow for operational space within the mixing pad, only 2/3 of it is generally used at any given time. Therefore the maximum amount of coal/tar mixture that can be placed on the pad is approximately 950 cubic yards.

The coal material is typically stored near the back of the mixing pad, allowing for operating room near the entrance and front portion of the pad. Therefore, at maximum coal/tar storage volume, the minimum distance from the coal/tar mixture to the entrance of the pad would typically be 33 feet. TCC will leave a 2 foot high berm at the entrance to the pad, meaning that almost 4000 cubic feet of space, or 30,000 gallons, is available for water storage.

In the event of a "severe storm," assumed to be a 25-year storm event (i.e., approximately 4 inches of water in a 24-hour period), approximately 15,000 gallons of water would fall in the pad. Considering that this is only half of the capacity available, there is at least one foot of free board available at all times. Note, that this doesn't take into account the pore space storage within the coal/tar mixture. A conservative estimate of pore space is 5%, which would provide an additional 9,500 gallons of water storage.

Normally, small piles of coal are stored against the sides and back concrete walls of the mixing pad, and form a buffer zone for the operational equipment within the mixing pad. The height of these piles does not extend above 3 feet, leaving approximately one

foot of freeboard near the concrete walls. At the maximum coal/tar mixture volume (utilizing 2/3 of the available storage space within the pad), the minimum distance from the material to the mixing pad walls would be several feet.

9.14.2 MIXING PAD RELEASE PREVENTION

The following specific measures will be taken to prevent a release of coal/tar mixture and/or rainwater from the mixing pad:

- Only store coal/tar mixture on 2/3 of the pad at any given time
- Maintain a minimum 6-inches of freeboard
- Continuously maintain a minimum 2 feet high berm at the pad entrance
- Remove liquids following a rainfall event (see Preventive Maintenance below)

9.14.3 MIXING PAD BMPS

- ***Routine Inspections*** - Qualified Facility personnel will inspect the pad on a monthly basis. The inspections must include an evaluation of the pad and its ability to contain storm water and material (i.e., coal/tar). In addition, the inspection must include approximate measurement of the amount of liquid on the pad, observations of the amount and location of material stored on the pad, and observation of estimated freeboard. In addition, inspections will be conducted after a significant rainfall event (i.e., greater than 1 inches of rainfall). Inspections will be documented (see Appendix A.7 for the inspection form). Any deficiencies noted as part of the inspection must be corrected as soon as practicable, and within 7 days of the inspection.
- ***Training*** - Facility employees will be given instructions to regularly check the area. Employees will also be given procedures to follow in the event of a spill or leak in the mixing pad area. It is intended that all personnel will have a heightened sense of awareness concerning environmental hazards and potential pollutant sources at the mixing pad area. The training topics will generally include a review of the storm water pollution prevention goals and objectives, spill response, as well as BMPs to be utilized at the mixing pad.
- ***Good Housekeeping*** - The facility must keep the area surrounding the mixing pad clean and in an orderly manner, where such exposed areas could contribute

pollutants to storm water discharges. Good housekeeping practices will be used to reduce the possibility of accidental spills and potential for storm water pollution.

- ***Preventive Maintenance*** - A good preventive maintenance program will be part of the routine inspection program and will include inspection and maintenance of the Facility vacuum truck to ensure that it can respond when storm water has accumulated on the mixing pad.

In the event that storm water has accumulates on the pad (greater than 2 inches deep covering a surface area greater than 50 percent of the open space of the pad), the facility uses a sump pump to remove accumulated liquid, which is transferred to a tote, and then managed on-site. Where the sump pump is insufficient to remove the accumulated liquid, third-party contractors are used.

The facility will maintain a continuous, minimum 2 feet high coal berm along the opening of the mixing pad opening to prevent storm water from migrating outside of the pad.

Exhibit B



Vendor

Cayuga Industrial Machines

Best Way

Date _____

Date Wanted 8-22-16

Terms _____

Tax Exempt ☐

Required Vendor ☐

Quantity	Complete Description (Part No., Catalogue No., Etc.)	Unit Price
2	Goulds 3756 Pumps 8/22/14 - Primary C&H	1376.00

Summary C&H

To Be Filled in by Purchasing Manager

Date Ordered 8/23/16 P.O. No. 02122

Vendor No. 09411

Due Date 8/30/11
By Dina

To Be Filled in by Requisitioner

To be used for Weak Liquor system
Date Needed 8-22-14
Requisitioned By [Signature]
Approved By [Signature]
Account No. 6117-0005 STN